

#### ABSTRACT OF THE DISCLOSURE

In formation-by-growth of an AlGa<sub>N</sub> layer 3 as having a double-layered structure, a non-doped AlGa<sub>N</sub> layer (i-AlGa<sub>N</sub> layer) having an Al compositional ratio of approximately 15% is formed to a thickness of approximately 3 nm on an i-Ga<sub>N</sub> layer, and further thereon, an AlGa<sub>N</sub> layer (n-AlGa<sub>N</sub> layer) doped with Si in a concentration of approximately  $2 \times 10^{18}/\text{cm}^3$  and having an Al compositional ratio of approximately 15% is formed to a thickness of approximately 17 nm.